

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-45    Cancelled.

46.    (New) A differential for an automotive vehicle, said differential comprising:

        a housing containing a bearing seat that is located along an axis; the bearing seat having an internal thread provided with multiple crests;

        a carrier that rotates in the housing about the axis for distributing torque to two axle shafts while accommodating for variations in velocity between the axle shafts; and

        an antifriction bearing supporting the carrier in the housing, the bearing including

                an inner raceway carried by the carrier and being presented away from and inclined with respect to the axis;

                an outer race located in the bearing seat and having a raceway that is presented inwardly toward the inner raceway and is inclined with respect to the axis in the same direction as is the inner raceway, the outer race having an external thread that is engaged with the internal thread of the bearing seat and a cylindrical surface that lies along multiple crests for the internal thread of the bearing seat, and

                rolling elements located between the inner raceway and the outer raceway of the outer race.

47. (New) A differential according to Claim 46 wherein a clearance fit exists between the crests of the internal thread in the bearing seat and the cylindrical surface of the outer race.

48. (New) A differential according to Claim 47 wherein the crests of the internal thread in the bearing seat are truncated.

49. (New) A differential according to Claim 47 wherein the threads on the outer race project outwardly beyond the cylindrical surface on the outer race.

50. (New) A differential according to Claim 49 wherein the pitch diameter of the internal thread of the bearing seat is slightly greater than the pitch diameter of the external thread on the outer race.

51. (New) A differential according to Claim 50 wherein the fit between the cylindrical surface of the outer race and the crests of the internal threads in the bearing seat is tighter than the fit between the external threads on the outer race and the internal threads of the bearing seat.

52. (New) A differential according to Claim 46 wherein the inner and outer raceways are tapered and the rolling elements are tapered rollers.

53. (New) A differential according to Claim 52 wherein the external thread is at the end of the outer race where the tapered outer raceway is smallest and the cylindrical surface is at the end of the outer race where the tapered outer raceway is largest.

54. (New) A differential according to Claim 52 wherein both the external thread and the cylindrical surface of the outer race surround the outer raceway or the outer race.

55. (New) A differential for distributing torque between two axle shafts, said differential comprising:

a housing containing bearing seats that are spaced apart along an axis, the bearing seats having internal threads provided with multiple crests;

a differential carrier having stub shafts that project into its bearing seats of the housing, the differential carrier being configured to deliver torque to the axle shafts;

a ring gear attached to the carrier for delivering torque to the carrier; and

antifriction bearings located within the bearing seats and around the stub shafts for supporting the carrier in the housing and enabling it to rotate about the axis, the bearing within each bearing seat and around the stub shaft in that seat including:

an inner race located around the stub shaft and having a raceway that is presented away from and inclined with respect to the axis;

an outer race that is located within the bearing seat and having an outer raceway that is presented toward the inner raceway and is inclined in the same direction, the outer race also having an external thread and an cylindrical surface located axially beyond the external thread, the external thread being engaged with the internal thread of the bearing seat so that the axial position of the outer race along the axis may be altered by rotating the outer race in the

bearing seat, the cylindrical surface lying along the crests of the internal thread of the bearing seat; and

rolling elements located in a row between the inner and outer raceways;

the bearings being mounted in opposition, whereby rotation of one outer race relative to the other outer race will change the setting of the bearings.

56. (New) A differential according to Claim 55 wherein the diameters of the cylindrical surfaces of the outer races are less than the diameters of the crests on the internal threads along which they extend.

57. (New) A differential according to Claim 56 wherein the crests of the internal threads are truncated.

58. (New) A differential according to Claim 56 wherein the external threads on the outer races project radially beyond the cylindrical surfaces of the outer races.

59. (New) A differential according to Claim 56 wherein the pitch diameter of the internal thread of each bearing seat is slightly greater than the pitch diameter of the external thread on the outer race that threads into that seat.

60. (New) A differential according to Claim 58 wherein the fit between the cylindrical surface of each outer race and the crests of the internal thread in the bearing seat for that race is tighter than the fit between the external threads on that outer race and the internal threads of the bearing seat.

61. (New) A differential according to Claim 55 wherein the ring gear is beveled and further comprising a beveled pinion that is rotatable in the housing and is engaged with the beveled ring gear, whereby the axial position of the carrier and the mesh between the ring gear and the pinion is controlled by rotating the outer races of the bearings in their bearing seats.

62. (New) A differential according to Claim 55 wherein the raceways of the bearings taper, and the rolling element are tapered rollers.

63. (New) A differential according to Claim 62 wherein on each outer race both the external thread and the cylindrical surface surround the raceway of the race.

64. (New) A differential for an automotive vehicle, said differential comprising:  
a housing having two spaced apart bearing seats that are aligned along an axis, each bearing seat having an internal thread provided with multiple crests;  
a carrier located in the housing generally between the bearing seats and having stub shafts that project into the bearing seats;  
a ring gear on the carrier; and  
a single row tapered roller bearing supporting the carrier in the housing at each of the stub shafts such that the carrier can rotate about the axis, but is confined axially, each bearing including;

a cup located in the bearing seat for its bearing and having a tapered raceway that is presented inwardly toward the axis, the cup also having an external thread that engages the

internal thread of its bearing seat and an external cylindrical surface that lies along the crests of the internal thread of its bearing seat;

a cone located around the stub shaft that projects into the seat and having a tapered raceway that is presented outwardly away from the axis and toward the raceway of the outer race;

and tapered rollers arranged in a single row between the cup and cone and contacting the raceways of the cup and cone;

the bearings being mounted in opposition so that the raceways of the one bearing taper in one direction and the raceways of the other bearing taper in the opposite direction, whereby the setting of the bearings and the axial position of the ring gear can be adjusted by rotating the cups.

65. (New) A differential according to Claim 64 wherein the diameter of the crests on the internal thread of each bearing seat is greater than the diameter of the cylindrical surface of the cup that fits into the bearing seat.

66. (New) A differential according to Claim 65 wherein the pitch diameter for the internal thread of each bearing seat is greater than the pitch diameter of the external thread on the cup that is in the bearing seat.

67. (New) A differential according to Claim 66 wherein the difference between the diameter of the crests on the internal thread and the diameter of the cylindrical surface is less than the difference between the pitch diameters of the external and internal threads.

68. (New) A differential according to Claim 66 wherein the fit between the crests of the internal threads of each bearing seat and the cylindrical surface of the cup in that bearing seat is tighter than the fit between the internal thread of the bearing seat and the external thread of the cup.

69. (New) A differential according to Claim 65 wherein the crests of the internal thread in each bearing seat are truncated.

70. (New) A differential according to Claim 64 wherein the bearings are mounted with the large ends of the tapered rollers in the bearings being presented toward each other.

71. (New) A differential according to Claim 64 wherein each bearing seat includes a half bore in the housing and an initially separate cap covering the half bore, and the internal thread for the bearing seat is in the half bore and in the cap.

72. (New) A differential according to Claim 64 and further comprising a locking ring attached to each cup and being engagable with the housing to prevent the cup from rotating within the housing.

73. (New) A differential according to Claim 62 wherein the locking ring is a metal stamping, has formations that are engagable by the tool, and is deformed into engagement with the housing.

Appl. No. 10/669,180  
Amendment dated June 6, 2007  
Reply to Office Action of March 9, 2007

74. (New) A differential according to Claim 64 wherein the cup of each bearing has a back face at the small end of its raceway, with the back face being located at substantial angles with respect to the raceway of the cup and with respect to the axis; and wherein each bearing further comprises a ring attached to its cup along the back face of the cup, the ring having at least one formation which enables a tool to engage the ring, so that the tool can rotate the ring and the cup.